

hyperresponsiveness of the bronchi to endogenous mediators, hypersensitivity to viral antigens or mechanical irritation by direct invasion of the respiratory mucosa all have been postulated. Further studies may help to develop effective means of preventing transmission of respiratory viruses to patients with asthma through immunization or by other methods.

ABBA I. TERR, MD

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Beclomethasone—An Inhaled Steroid for Bronchial Asthma

CORTICOSTEROIDS may be necessary in the management of patients with chronic asthma who do not respond to other modes of therapy. The principal mechanism of action is unknown, but the steroids are thought to act at least in part by enhancing the responsiveness of beta adrenergic receptors. Although they are effective in controlling asthma, serious side effects—particularly cushingoid features, pituitary and adrenal inhibition, and growth suppression in children—occur along with long-term use. Because of these limitations, aerosol therapy with topical doses was investigated. The initial studies with water soluble preparations, such as dexamethasone phosphate, did not show them to have any significant advantage over oral therapy. An aerosolized halogenated steroid ester, beclomethasone dipropionate, which is active in the respiratory tract, rapidly metabolized and has few systemic side effects, has been developed for use by steroid dependent patients with asthma.

Beclomethasone is 5,000 times more potent than hydrocortisone as a vasoconstrictor in the skin. Most of the inhaled drug is swallowed, and although efficiently absorbed, the small amount of steroid is rapidly inactivated. Adrenal suppression and growth inhibition are spared by the commonly recommended dose. Each inhalation contains 50 μ g of steroid and the starting dose is two inhalations four times a day. Several reports indicate that in most steroid dependent patients with asthma, the oral steroid requirement can be substantially

reduced while increasing pulmonary function and improving asthmatic symptom scores. In addition, there is a reduction in systemic effects while the patient is receiving beclomethasone.

When beclomethasone use is begun in a steroid dependent patient with asthma, orally given prednisone must be tapered very slowly and the patient observed for evidence of adrenal suppression.

Attendant with lowering of systemic steroids while using this aerosol, flares of eczema, allergic rhinitis and nasal polyps have been noted. Oral thrush has been seen in some patients, but there have been no reports of monilial lung infections. In those patients with asthma who are using this aerosol, short bursts of short-acting systemic steroids may be required during exacerbations of the illness. Use of beclomethasone is not indicated in status asthmaticus or in situations where steroids are not normally required, such as exercise-induced bronchospasm and infrequent asthma attacks.

CHARLES E. GRONCY, MD

STANLEY P. GALANT, MD

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The Role of IPPB in Asthma

INTERMITTENT positive pressure breathing (IPPB) was introduced as a form of assisted ventilation for patients with respiratory failure. It was soon extended to the treatment of status asthmaticus and with the addition of bronchodilating drugs even to ambulatory patients with acute asthma. Despite widespread use, there has been insufficient documentation that this treatment modality is superior to bronchodilators administered subcutaneously or by hand-held nebulizers. Findings in some studies suggest that IPPB delivers a higher dose of drug to the affected site in the bronchi. However, others show insignificant difference in results on clinical improvement and pulmonary function tests whether a drug was delivered by IPPB, hand nebulizer or a nebulizer attached to an electric air compressor. Although there may be other beneficial effects, such as inducing increase in tidal volume and improvement of distribution